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Abstract

In recent years, fiscal performance in Central Europe has steadily deteriorated, in contrast to the improvement in the Baltics. This paper explores the determinants of such differences among countries on the path to EU accession. Regression estimates suggest that economic and institutional fundamentals do not provide a full explanation. An alternative explanation lies in the political economy of the accession process, and a game-theoretic model illustrates why a country with a stronger bargaining position might have an incentive to deviate from convergence to the Maastricht criteria. The model generates alternative fiscal policy regimes—allowing for regime shifts—depending on country characteristics and EU policies.

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I. INTRODUCTION

In recent years, European Union (EU) accession countries (ACs) have displayed increasing differences in fiscal behavior. While the large Central European ACs have, for the most part, significantly relaxed their fiscal stance, the fiscal position of the Baltic economies has converged well within the Maastricht treaty's deficit reference value. Although these trends have been well documented (Kopits and Székely, 2004), there is limited understanding of the factors that are responsible for the difference between the two regions. The deterioration in the underlying fiscal position is not attributable to the transition shock, since its repercussions had faded by the middle of the 1990s, and were followed by a period of rapid growth. Moreover, the evolution of fiscal institutions—customarily helpful in explaining differences in fiscal performance—contribute little to our understanding of fiscal trends in the ACs. Thus, there may be other factors responsible for the deteriorating fiscal stance in Central Europe, including the EU accession process itself.

For years, one of the most powerful arguments for an early EU enlargement was that the accession process and the conditionality associated with it would provide an external anchor for macroeconomic policies—and also possibly for political developments—in this region. Somewhat surprisingly, the opposite seems to have happened in the large Central European countries regarding their fiscal policies. As we will argue below, the explanation for this apparent contradiction may lie in the political economy of the accession process.

The paper explores the determinants of cross-country differences in fiscal trends. It starts with a broad description of these trends, identifying some of the potential explanatory features of the ACs. It continues with a discussion of the main factors that are generally thought to determine fiscal outcomes and presents a regression analysis in an attempt to test the significance of these factors in the ACs. The estimates suggest that the unfavorable fiscal performance in the large Central European economies cannot be explained by standard factors alone. As a possible explanation for the observed differences in fiscal trends, we develop a simple game-theoretic model to capture key aspects of the political economy of policymaking in the ACs. The model is capable of generating different fiscal policy regimes depending on certain characteristics of the ACs and on policies pursued by the EU. The paper concludes with a summary of the findings and of possible implications for post-accession Europe, including for the Stability and Growth Pact (SGP).

II. FISCAL PERFORMANCE AND POTENTIAL DETERMINANTS

Following the adverse impact of the 1998 Russian crisis, the large Central European countries (Czech Republic, Hungary, and Poland) and the Baltic countries (Estonia, Latvia, and Lithuania) followed opposite fiscal strategies (Figure 1). The Baltic countries quickly returned to the close-to-balanced position that characterized them prior to the crisis. By contrast, the Central European countries, even though they faced a significantly smaller shock, set out on a course of rapid fiscal loosening, reaching dangerously high levels of fiscal imbalance.

By 2002, the general government overall balance (adjusted for one-off transition related items) ranged from a surplus of about ¼ percent of GDP in Estonia to a deficit of 6 ½ percent of GDP in Hungary and Poland, with primary deficits reaching almost one half of this level (Table 1).[2] A marked increase in primary expenditures in Central European countries, particularly government wages and transfer payments, account for most of the prevailing differences in fiscal performance vis-à-vis the Baltics (Kopits and Székely, 2004).

These trends point to an obvious question: why have the Baltic countries been consistently more disciplined and why did the fiscal positions of the large Central European countries, which were already weak by the second half of the 1990s, deteriorate rapidly during 2001-03? As a first step toward answering this question, let us draw on the literature in search of possible explanations for differences in fiscal performance across countries and over time.

With unchanged expenditure policy and tax structure, fiscal performance is bound to reflect the economic cycle. The effect of cyclical fluctuations in ACs may differ over time as they become integrated into the European economy to varying degrees, given differences in their openness to trade and their economic structure. While the large fiscal imbalances of the Baltic countries in 1998–99 were clearly associated with a large output gap—probably accentuated by a countercyclical fiscal impulse in the wake of the Russian crisis, the picture for Central Europe is less clear. While Hungary had no discernable output gap, fiscal deterioration in Poland was to some extent cyclical in nature in 2001–02.[3]

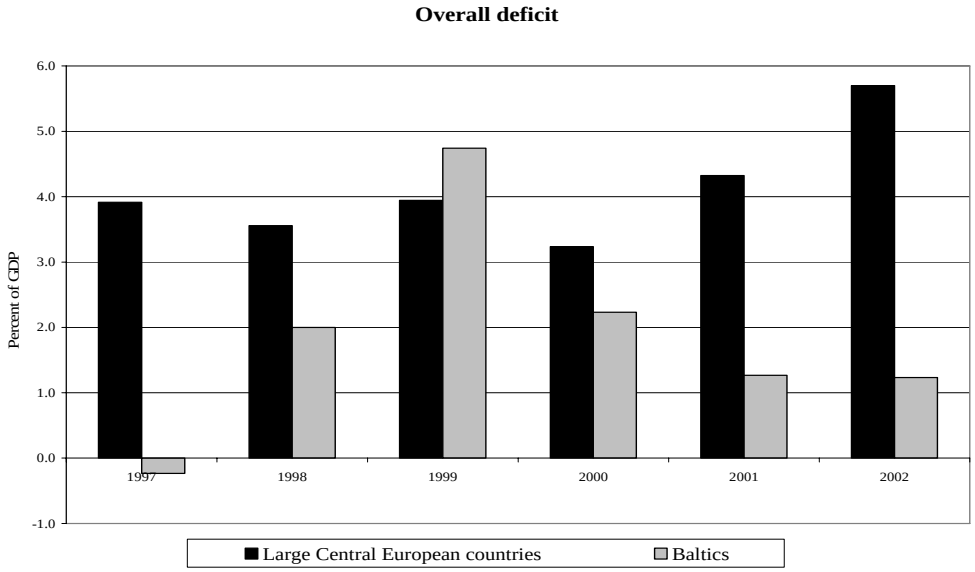
In addition to the economic cycle, the fiscal position is likely to be influenced by the political cycle. The deficit tends to increase in election years and return toward its previous level afterwards. Thus, the rapid widening of the fiscal imbalance in 2001–02 may have been at least partially attributable to the elections being held in several Central European countries. In this regard, it may be noted that there is a broadly similar type of governments across ACs. With few exceptions, most consist of coalition governments (governing with relatively small margins) that lack a clearly discernible distinction as regards economic ideology. The position of these coalitions tends to shift between a stronger or lesser attachment to the status quo in terms or privatization or government

[2] Total expenditure and net lending and the overall deficit are modified to exclude one-off transition-related expenditures that are thought not to burden the budget in the future, in particular after EU accession and to make deficit measures comparable across countries. Similarly, privatization receipts are excluded from net lending and thus do not affect overall deficit. Specific country adjustments are as follow. Czech Republic: total expenditure and net lending and the overall balance are adjusted to exclude grants to transformation institutions which cover costs related to the management of bad assets. Hungary: one time, mainly capital expenditures made in 2002 are excluded. Lithuania: expenditure on the savings restitution program is excluded until 1999; no adjustment is made thereafter. Slovak Republic: expenditure on called guarantees is added to total expenditure. For Estonia, Latvia, Poland, and Slovenia, no adjustments are made.

[3] The cyclically adjusted overall deficit relative to GDP rose by about 1 percentage point in Poland in 2001 (Székely, 2003).

intervention.[4] However, differences in political arrangements can be captured by a measure of government fragmentation in terms of party structure (Mody and Fabrizio, 2005).[5]

Figure 1. Central Europe and the Baltics: General Government Overall Deficit, 1997–2002



Sources: Government Financial Statistics and authors' own calculations.
Note: The group of large Central European accession countries includes the Czech Republic, Hungary and Poland.

The quality of fiscal institutions, the degree of fiscal transparency, and the degree of fiscal decentralization, including at the subnational level of government, are seen as factors that impact fiscal performance in transition economies (Gleich and von Hagen, 2003). The more developed the internal coordination of budget decisions (including the stringency of budget targets, relative roles of the executive and legislative branches, and the binding nature of the budget bill), the more favorable are the prospects for fiscal discipline. Also, contrary to the view that decentralization may foster competition among subnational levels of government and thus lead to greater fiscal discipline, experience in this region points to a common-pool problem.[6] By the same token, transparency in public finances, including budgetary and accounting practices, is conducive to more responsible fiscal behavior. Indeed, until very recently—prior to enforcement of ESA95 standards—a number of ACs resorted to creative accounting practices (mainly through the proliferation of off-budget operations and recording of privatization receipts as current revenue), resulting in greater latitude for loose fiscal behavior.

[4] Not surprisingly, given the murky (if any) distinction in the type of government among these countries, there is no available index to gauge such differences and their potential effect on fiscal behavior.

[5] We are grateful to the authors for kindly providing the values of this variable, constructed as a Herfindhal index, ranging from 0 to 1, with higher values indicating smaller coalitions..

[6] This explains, for example, the adoption of a permanent debt limit for subnational governments in Poland.

In general, the Baltic countries, with the exception of Lithuania, have more centralized public finance systems than the Central European countries (Table 1). [7] The former are also significantly smaller, whereby centralization is a more feasible option, and perhaps even a rational choice. Yet Slovenia, similar in size to the Baltic countries and with a centralized system, experienced a somewhat weaker fiscal performance. Thus, while the degree of centralization seems to be at least broadly compatible with the observed differences in the level of fiscal performance, causality is hard to establish in the ACs. Transparency offers an even less clear-cut explanation for differing fiscal performance. While Estonia stands out with a high degree of transparency, and Poland and Latvia lag behind, the remaining countries exhibit rather similar levels of fiscal transparency and significant differences in fiscal performance.

More important, while neither the degree of centralization nor the transparency that characterizes the fiscal framework of these economies changed appreciably over time since the mid-1990s, fiscal behavior has fluctuated significantly over this period. Moreover, only two ACs had adopted a rule-based policy framework.[8] Hence, lacking evidence that the quality of fiscal institutions has deteriorated in Central Europe or has improved in the Baltics, this factor can hardly be responsible for the divergence in fiscal trends between these regions in the past few years.

An additional potential explanation for differences in fiscal performance stems from the country's exchange rate arrangement. This is based on the supposedly disciplining effect of a hard peg. A number of ACs (Czech Republic, Poland, and several Baltic countries) had introduced fixed exchange rate regimes early in the transition, which brought about rapid disinflation, and were accompanied by apparent fiscal balance. In particular, adherence of the Baltic countries to a currency board arrangement may be viewed as a determinant of fiscal discipline. However, recent theoretical work (Tornell and Velasco, 1998; Yan Sun, 2003), building on the earlier currency crisis literature (starting with Krugman, 1979), indicates that a fixed exchange rate regime does not in itself ensure fiscal discipline; on the contrary, sustained fiscal imbalance undermines the fixed parity. This has been amply corroborated by currency crisis episodes, including under a hard peg.[9] Indeed, the chosen exchange rate arrangement is secondary to the quality of fiscal, monetary and financial institutions, in ensuring successful macroeconomic outcomes (Calvo and Mishkin, 2003). In turn, a solid institutional framework can only contribute to

[7] The index of centralization is from Gleich and von Hagen (2003). The fiscal transparency index (the number of criteria a country meets out of 15 transparency criteria) is based on a survey of ROSC fiscal transparency modules, reported in Allan and Parry (2003, Appendix II).

[8] In line with the budget law of the early 1990s, Estonia adopted annual balanced-budget targets since 1998, which operated was along with a stabilization fund to cushion exogenous shocks. In l997, Poland enacted a constitutional limit on public debt at 60 percent of GDP, with cautionary limits at 50 percent introduced in the Public Finance Act of 1998. For a description and analysis of the Polish constitutional debt limit, see Székely (2003, 2005).

[9] For a discussion of the role of fiscal misbehavior in recent currency crises, see Kopits (2004). Furthermore, neither the currency board arrangement in Argentina, nor dollarization in Ecuador, has succeeded in removing fiscal dominance in these countries.

discipline in macroeconomic policies, including public finances, if supported by a wide political consensus.

III. EMPIRICAL RESULTS

To test for the significance of the above determinants, a regression equation is estimated on a pooled sample of annual observations for eight ACs over the period 1997–2002.[10] Our model of choice is a random effects estimator, allowing for individual country and time effects. Limited variation over time in the institutional variables (in particular, the fiscal transparency variable is completely time-invariant), makes the use of fixed effects estimators with individual country effects difficult. Introducing fixed time effects, on the other hand, takes out part of the trend in fiscal balances the study tries to identify. In specifications where fixed effect estimator with time effects could be used, parameters are very similar to those estimated by random effects estimator.

Estimates are shown for the overall balance and the primary balance of the general government (adjusted for all transition-related budgetary outlays or receipts, as noted) and two alternative specifications (Table 2). The first specification uses real GDP growth as an explanatory variable, the second one the unemployment rate. Both specifications have their advantages and disadvantages. GDP growth might be the better indicator of economic activity as a whole, but (the level of nominal) GDP also appears on the left-hand-side of the equation. This is less of an issue with the unemployment rate, which may not be fully comparable among some countries.

[10] Besides the data sources noted above, the schedule of elections for each country is available from the University of Essex Project on Political Transformation and Electoral Process in Post-Communist Europe *(www2.essex.ac.uk/elect/database).*

Table 1. EU Accession Countries: Selected Economic and Institutional Indicators, 2002

	Adjusted Fiscal Balance 1/ (percent of GDP)		GDP (billion US dollars)	Population (million)	NATO Member	Fiscal Institutions (indices)		
	Overall	Primary				Fragmentation (1997-2002 average)	Centralization	Transparency
Poland	-6.3	-2.9	179.9	38.7	X	0.69	7.78	5
Czech Republic	-4.2	-3.2	56.7	10.3	X	0.86	7.19	8
Hungary	-6.3	-2.4	52.3	10.0	X	0.57	5.32	8
Slovakia	-4.9	-2.2	19.9	5.4		0.61	6.62	8
Slovenia	-2.7	-1.0	19.0	2.0		0.42	7.69	8
Lithuania	-1.2	0.1	12.1	3.5		0.48	6.19	7
Latvia	-2.7	-1.7	7.4	2.3		0.70	8.00	5
Estonia	0.2	0.5	5.7	1.4		0.70	8.32	13

Sources: IMF, Gleich and von Hagen (2003), Allan and Parry (2003), Mody and Fabrizio (2005), and authors' estimates.

1/ Total expenditure and net lending are modified to exclude one-off transition-related expenditures which are assumed not to burden the budget in the future, in particular after EU accession. For country specific adjustments see the main text. These adjustments are sizable for Hungary and the Czech Republic, where officially reported deficits reached 9.5 and 7.1 percent of GDP, respectively. However, for countries where pension reforms were implemented, the deficit reflects the ensuing deterioration of the fiscal position; in Poland, for example, this augments the deficit by 1.8 percent of GDP in 2002.

The results confirm the hypothesized influence of the economic cycle and the political cycle. The economic cycle is captured by the negative coefficients of the unemployment rate or alternatively, the positive coefficient of real GDP growth. While an economic upswing brings about an improvement in the fiscal balance, an election tends to lead to a temporary deterioration in the balance. For the political cycle, the coefficient of the election dummy is estimated negative in all specifications and significant at the 10 percent level in the specifications with the unemployment rate.[11] Although showing positive sign, in line with the hypothesized relationship, the indicator of fiscal centralization is not significant in any of the equations. The estimated coefficient for government fragmentation is not significant at any standard probability level, and neither are the coefficients for government centralization or population size.[12]

The results, though displaying a better fit for the overall balance, are broadly similar for either measure of fiscal balance. The estimates also show that a change in the interest cost is less than fully reflected in a change in the overall balance. In other words, the change in the interest bill leads to a change in the primary position. As the interest bill declined in this period—owing to declining interest rates and public indebtedness—this result can be interpreted as a rather opportunistic policy approach: around one-third of the saving from lower interest costs was utilized to relax the primary position, while the remaining two thirds were translated into an improvement of the overall balance.

After controlling for the aforementioned characteristics, there still remains a trend change in the fiscal performance of the large Central European countries (Czech Republic, Hungary, and Poland) starting in 1999, the year when they joined the North Atlantic Treaty Organization (NATO). This effect was captured by a variable constructed from the interaction of a dummy for NATO membership and a linear time trend, that turned out to be significant in all the specifications.[13] The size of the trend decline implies an annual deterioration of the fiscal balance of about one-third of a percentage point of GDP—roughly equivalent to the effect of a one percentage point drop in real GDP growth. The sizable and significant time trend in the period following NATO accession, after allowing for all the factors described above, requires further investigation of the determinants of the ongoing fiscal expansion in the large Central European ACs.

[11] The election dummy is 1 in an election year and 0 otherwise.

[12] This result is consistent with the findings for segmentation reported by Mody and Fabrizio (2005).

[13] The NATO dummy is 1 in the year when a country is a NATO member and 0 otherwise. The interaction variable multiplies this dummy with a linear time trend. Neither the trend nor the NATO dummy was significant separately.

Table 2. EU Accession Countries: Estimates of Fiscal Performance, 1997–2002 1/

Independent Variable	Dependent Variable 2/			
	Overall Balance		Primary Balance	
	(1)	(2)	(3)	(4)
Constant	-3.91* (2.24)	-3.312 (2.846)	-3.883* (2.265)	-3.278 (2.861)
Interest expenditure 2/	-0.66*** (0.165)	-0.570*** (0.203)	0.332* (0.165)	0.427** (0.204)
Real GDP growth	0.313*** (0.067)		0.313*** (0.067)	
Unemployment rate		-0.103*** (0.035)		-0.103*** (0.035)
Election (dummy)	-0.490 (0.354)	-0.707* (0.358)	-0.483 (0.350)	-0.702* (0.357)
NATO * trend (dummy)	-0.296*** (0.107)	-0.301** (0.138)	-0.294*** (0.105)	-0.298** (0.137)
Population	0.0167 (0.013)	0.001 (0.013)	0.017* (0.014)	0.016 (0.013)
Government fragmentation	0.382 (0.774)	0.638 (1.573)	0.386 (0.772)	0.645 (1.572)
Government centralization (index)	0.138 (0.327)	0.343 (0.326)	0.133 (0.329)	0.338 (0.328)
R^2 adjusted (weighted)	0.46	0.34	0.39	0.12
Number of observations	48	48	48	48

Source: Authors' own calculations.

1/ Standard errors are shown in parentheses below the corresponding regression coefficients. Significance at 10 percent level (*), 5 percent (**) and at 1 percent level (***) as shown. 2/ In percent of GDP.

IV. External Anchor: Fiscal Strategies in the EU Accession

The conduct of fiscal policy, as well as the development of fiscal institutions, played a key role in assessing the preparation of ACs for EU membership. The latter involves close coordination of macroeconomic policies and imposes rule-based restrictions on the fiscal deficit and public debt. ACs were expected to demonstrate their capacity and willingness to comply with these restrictions, and the annual assessment of progress in meeting the membership criteria placed emphasis on fiscal policies and institutions. After joining the EU, the new members would be subject to the excessive deficit procedure and required to present a medium-term convergence program, summarizing their strategy to meet the Maastricht criteria and to adopt the euro.

Although by the second half of the 1990s virtually all ACs had declared their intention to join the EU there were, as discussed above, widening differences in fiscal positions. While the Baltic countries seem to have converged within the fiscal reference values and, as a result, are well positioned for an early euro adoption, Central European countries will have to embark on a sizable fiscal adjustment to avoid excessive deficits. The prospect of EU accession has clearly failed to bring about sound fiscal policies in these countries.

In a stylized sense, the choice for (fiscal) policymakers in ACs has been between a loose and a tight fiscal stance expressed in terms of the perceived consequences of each option: on the one hand, the immediate political payoff from a fiscal expansion (or the political cost of fiscal consolidation), and on the other, the potential reward (or penalty) associated with convergence (or non-convergence) to the fiscal reference values. In other words, improved electoral prospects upfront, at the cost of the probable penalty of postponed (or shelved) EU accession, had to be weighed against a less favorable electoral outcome but better prospects of eventual EU accession. This can be boiled down to a choice between the immediate political gain from pursuing a dynamically inconsistent strategy and the utility gain from accession by adhering to the intertemporal budget constraint.[14] The actual choice was likely to depend on the AC's perception of its bargaining power in the accession process, of the probability of sanctions for nonconvergence, of the political gain from accession (or the political costs of being left out), and of the policy stance of the EU.

Information asymmetry may have played an important role. While in principle committed to early accession, neither the EU institutions nor the accession governments (with the exception of those with a relatively weak bargaining position) seem to have assigned priority to convergence to fiscal balance. The EU authorities had downplayed the importance of

[14] This choice can be characterized as lying between two types of signaling according to the time consistency of the adopted policy stance, with differing effects on credibility. In the first type, initially declared excessive toughness, followed by laxity, lacks credibility. By contrast, in the second type, a moderately but persistently tough policy stance is credible. For an application in the context of monetary policy, see Drazen and Masson (1994).

compliance with the reference values;[15] instead, they sought to focus the attention of policymakers in ACs on the completion of unfinished transition-related structural reforms, which, for the most part, entail major upfront fiscal costs.[16] The objective was to avoid postponing these reform tasks for the sake of a seeming convergence to the reference values for inflation, interest rate, public debt, and deficit. Meanwhile, internally, politicians in some ACs found it convenient to ignore the need for convergence and—often under the cover of some creative accounting—to pursue fiscal expansion to enhance electoral prospects. In some instances, this posture was further justified by the fact that strict adherence to the reference values is a requirement for euro participation but not for EU membership.

Therefore, during the accession process, the governments in the large ACs may have increasingly felt that they were in a relatively strong bargaining position regarding fiscal performance. Indeed, the above empirical results support the view that the large ACs, which also happened to participate in the first wave of NATO enlargement, experienced a continued worsening of the underlying fiscal position during 2001–03. This behavior can be depicted, in a stylized way, in a game-theoretical framework.

V. A Game-theoretic Approach

With the upshot of the empirical findings being that fiscal policy behavior in the ACs is less likely to have been influenced by conventional economic and institutional determinants than the political aspects of the accession process, we turn to a simple analytical framework in the spirit of the more recent political-economic literature (see, e.g., Persson and Tabellini, 2000). In particular, we develop a game-theoretic approach capable of generating distinct fiscal outcomes as rational strategic choices under certain well-defined circumstances.

A. Analytical Framework

Let us suppose that a decisionmaker faces a choice between a "loose" (L) or "tight" (T) fiscal policy (F_i) for country i. Further, assume that a "tight" policy would imply a fiscal deficit (or a surplus) in line with the conditions set for accession to the EU or the euro area, respectively, while a "loose" policy would constitute an excessive deficit in breach of these conditions. Fiscal policy is determined simultaneously in all ACs.

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[15] For example, in the words of Governor Balcerowicz of the National Bank of Poland, "the European Commission and the ECB speak too little about the need for fiscal consolidation in the context of stability and growth [pact] in the accession states;" see *Financial Times*, June 26, 2003.

[16] According to European Commission (2002, p. 149), "Central and Eastern European Countries are not required to fulfill the Maastricht nominal convergence criteria, but rather to comply with the Copenhagen criteria. The primary fiscal concern in the pre-accession period is medium-term sustainability, rather than achieving any particular target for the government balance. As noted above, setting of specific budgetary targets could be misleading and the priority should remain on improving the functioning of the budgeting process, carrying out structural reforms, implementing the *acquis communautaire*, and supporting catching up."

Fiscal policy will take into account both the expected utility from the selected deficit level (u_i) and any expected utility loss or penalty (S_i) the country might suffer when running a loose fiscal policy. Here S_i is probably best interpreted as the (exogenous) utility loss associated with *not* joining the EU or euro area. Thus, S_i will be specific to each country, differing perhaps with the preferences of decision makers, including their rate of time preference.[17]

Given the political nature of the accession process, a reasonable assumption is that this utility loss occurs only with a country-specific probability (p_i). More specifically, a decision maker in country *i* will chose fiscal policy F_i to maximize the expected utility

$$EU_i = u_i - p_i(b_i, F_i, F_{\neq i}) \cdot S_i, \tag{1}$$

where

$$u_i = \begin{cases} \underline{u}_i \text{ if } F_i = T \\ \overline{u}_i \text{ if } F_i = L \end{cases} \text{ with } \overline{u}_i > \underline{u}_i \tag{2}$$

is the utility level associated with the type of fiscal policy chosen. The assumption $\overline{u}_i > \underline{u}_i$ could reflect fiscal illusion or the neglect of the medium-run consequences of fiscal indulgence due to political-economic reasons.[18]

A crucial element of the setup in (1) is the nature of p_i, which is intended to capture elements of the political process governing EU accession. Equation (3) describes the probability of being left behind in the accession process as a function of three arguments: the fiscal policy choice made by each country; its bargaining power; and the position taken by the EU.[19]

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[17] Alternatively, S_i could also be interpreted as a fiscal charge, for instance the penalty foreseen in the SGP for a deficit exceeding 3 percent of GDP. In this case, the model would entail a sequence of two stages, with the first ("constitutional") stage encompassing the determination of S_i and the second stage the fiscal policy decision. Since the accession countries so far have no role in setting the penalties under the SGP, however, S_i remains exogenous under the second interpretation as well. Moreover, it might still be individual to each country, as a given penalty set by the EU and defined in percent of GDP might cause different degrees of utility loss depending, for instance, on the GDP level. It is also important to emphasize that this model operates with a narrowly defined utility function of a policy maker and, thus, it does not incorporate the welfare implications of different fiscal policies.

[18] Such reasons might include the election cycle (Nordhaus, 1975), the wish to restrict the financial room of maneuver of a successor government (Persson and Svensson, 1989), or simply the short time-horizon of an outgoing government with a low re-election probability. Alternatively, one might argue that it describes the policy maker's view of the benefits of a more expansionary fiscal policy in the face of an adverse demand shock. However, our empirical results presented above do not suggest that the significant structural deterioration of the fiscal balances in the large Central European ACs observed in recent years could be explained by alluding to (a series of) demand shocks alone.

[19] If S_i were interpreted as a penalty under the SGP, p_i would be the probability with which country *i* would expect to actually be forced to pay that fine in case of a "loose" fiscal policy.

$$p_i = \begin{cases} 0 & \text{if} \quad F_i = T \\ \underline{p} - b_i & \text{if} \quad F_i = F_{\neq i} = L \\ \overline{p} - b_i & \text{if} \quad F_i = L \wedge F_{\neq i} = T \end{cases} \quad \text{with } 1 > \overline{p} > \underline{p} > b_i > 0 . \tag{3}$$

The first argument in equation (3) is *country i's policy choice*. The probability of being excluded from the accession process (or sanctioned in another way) is 0 if a country steers a fiscal course in line with the conditions set for EU or euro area accession ($F_i = T$); it is positive, however, if a country opts for a "loose" or excessive fiscal position ($F_i = L$). In the latter case, the probability level is a function of fiscal stance decision makers in *i* expect to prevail simultaneously in other accession countries ($F_{\neq i}$) and country *i*'s perceived bargaining position (b_i) in the accession process vis-à-vis the EU.

Another country-specific factor that plays a role in equation (3) is the political clout or *bargaining power* (b_i) countries carry with respect to the EU. The role of b_i in equation (3) is straightforward: the larger is a country's political weight, the smaller is the probability of being left behind. While more than one factor influences a country's bargaining position, a plausible set of determinants would include arguments such as economic size, historical ties to the EU, or a country's strategic importance from a defense perspective—as discussed above.

In addition, of course, fiscal policies are a function of the *EU's position* vis-à-vis failures of policy conduct during the accession process. To capture the idea that the EU might vary the intensity with which it enforces fiscal discipline in the ACs, equation (3) incorporates common probability terms, $\overline{p}$ and $\underline{p}$, which capture the likelihood that the EU will pursue the exclusion of countries from accession in the case of fiscal behavior not in line with expectations of the EU. While these probabilities are the same across all countries, they are assumed to change with their collective behavior. The fact that the probability of being sanctioned for excessive fiscal deficits is declining if other accession countries chose not to adhere to the "tight" policy rule, too, reflects the notion that, from the EU's perspective, it is easier to sanction one candidate country for fiscal misbehavior than all (i.e., when $F_i = L \wedge F_{\neq i} = T$ and not when $F_i = F_{\neq i} = L$). This could be because a "big bang" approach to EU or euro area enlargement is viewed as advantageous by EU policy makers or because of "economies of scale" in the political resistance put up by accession countries against pressures for a tighter fiscal policy.[20]

Obviously, since fiscal policy in accession countries is determined simultaneously, the *political externalities* build into the accession process described by equation (3) hold the possibility of introducing elements of a coordination problem into each country *i*'s decision

[20] For instance, if all countries breach the accession conditions, it would be easier to argue that a common exogenous shock could be behind the fiscal slippage.

making. That is, fiscal policy decisions could take the form of a Nash-game where expectations about other accession countries' policy decisions matter rather than only "national" preferences or parameters. We will discuss this possibility below.

B. Policy Decisions

To describe the fiscal decision by country *i*, it is useful to identify the point at which decision makers are indifferent between the two policy options *L* and *T*. This is the case if the expected utility (1) is the same under both policies, that is,

$$\underline{u}_i = \underbrace{\overline{u}_i - p_i \cdot S_i}_{\equiv EP_i} . \tag{4}$$

The definition $\overline{u}_i - p_i \cdot S_i \equiv EP_i$ helps to simplify notation in what follows. Using (2) and (3) and rearranging allows identifying the level of S_i that fulfills (4)

$$S_i^* = \frac{\overline{u}_i - \underline{u}_i}{p_i} = \begin{cases} \dfrac{\overline{u}_i - \underline{u}_i}{\overline{p} - b_i} \equiv \underline{S}_i^* \text{ if } F_i = L \wedge F_{\neq i} = T \\ \dfrac{\overline{u}_i - \underline{u}_i}{\underline{p} - b_i} \equiv \overline{S}_i^* \text{ if } F_i = F_{\neq i} = L \end{cases} . \tag{5}$$

The resulting decision rule is quite straightforward: for penalties above S_i^*, decision makers in country *i* will find it more attractive to choose a "tight" fiscal policy; conversely, for penalties below S_i^*, running a "loose" fiscal policy will be more attractive. Obviously, since $\overline{u}_i > \underline{u}_i$ it will be true that $\overline{S}_i^* > \underline{S}_i^*$. Moreover, note that both are decreasing in $\underline{u}_i - \overline{u}_i$ and b_i. We will discuss some further characteristics of $\overline{S}_i^*$ and $\underline{S}_i^*$ below.

Figure 2 provides an illustration of these results. The horizontal $\underline{u}_i$-line marks the expected utility level that would result from a "tight" fiscal policy, while the downward sloping EP_i-lines show the expected utility loss (or expected penalty) related to a "loose" fiscal policy. Note that we use $EP_i \mid L, L$ to identify the expected utility loss in the case in which all countries pick a "loose" fiscal policy and $EP_i \mid L, T$ to mark the expected utility loss in the case in which only country *i* picks a "loose" fiscal policy.

Under a "loose" policy, the expected utility always decreases in S_i, but the speed of decline is a function of the fiscal strategy selected in other accession countries. If all candidate countries pick a "loose" policy, the probability of being excluded from EU accession will be lower, the curve will be flatter, and the intersection with the $\underline{u}_i$-line (which defines the indifference level S_i^*), will be further to the right than when only country *i* selects a "loose" policy. The reason is that, for a given level of bargaining power, b_i, the probability of being

penalized in case of common misbehavior is smaller than the probability of being fined if only country *i* is running a "loose" policy, since $\underline{p} < \overline{p}$. Also, note that both the $EP_i \mid L,T$-and the $EP_i \mid L,L$-line become flatter as a country's political clout or bargaining power, b_i, increases.

Figure 2. Model: The Critical S_i Value

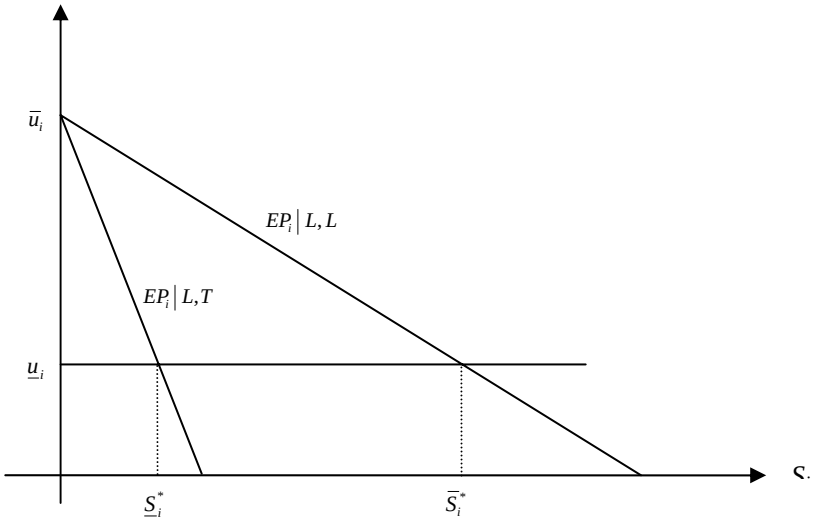


Figure 2 helps to identify three alternative fiscal policy regimes depending on the value of S_i.

Regime 1: *"Loose" fiscal policy always pays* **(** $S_i < \underline{S}_i^*$ **)**

For very low realizations of S_i it never pays for decision makers in country *i* to chose a "tight" fiscal policy. The reason is that, with or without other countries joining in, the expected utility from in acting "loose" will always exceed the utility level under a "tight" policy: in Figure 2, both downward-sloping lines are above the $\underline{u}_i$-line. In game-theoretic terms, defaulting on the conditions set on EU or euro area accession becomes a *dominant strategy* for country *i*.

Regime 2: *"Tight" fiscal policy dominates* **(** $S_i > \overline{S}_i^*$ **)**

A related result holds at very high levels of S_i. In this case, too, the decision process in country *i* becomes independent of fiscal policy elsewhere. In the example of Figure 2, both

downward-sloping lines are below the $\underline{u}_i$-line. In this case, the level of S_i is high enough to effectively prohibit fiscal misbehavior: the expected utility level under a "tight" policy will always exceed that under a "loose" policy, rendering the former a *dominant strategy*.

Regime 3: *Fiscal policy as a coordination game* **(**$\underline{S}_i^* < S_i < \overline{S}_i^*$**)**

For intermediate values of S_i, however, country *i*'s policy choice will depend on its assumptions regarding the simultaneous fiscal policy selection in other accession countries. In Figure 2, in the interval $\underline{S}_i^* < S_i < \overline{S}_i^*$, expected utility under a "tight" fiscal policy (the $\underline{u}$-line) is higher than under a "loose" policy just in country *i* (indicated by the $EP_i \mid L,T$-line), but lower than in the case where all countries simultaneously run a "loose" fiscal policy (the $EP_i \mid L,L$-line). Consequently, if decision makers expect that fiscal policy elsewhere will stick to the accession rules, the probability of being excluded from EU for fiscal misbehavior is sufficiently large to make a "tight" fiscal policy the more attractive policy option. If, on the other hand, the other accession countries are expected to chose a "loose" policy, country *i* will play "loose" as well. In other words, the fiscal stance is determined in a *coordination game* between accession countries.[21]

To simplify the exposition, it is helpful to reduce Regime 3 to a symmetric two-country setup, with country *i* on the one hand and "all other" accession countries ≠*i* on the other. In this case, equation (5) describes a normal (or strategic) form coordination game that can be summarized in a simple matrix (Table 3),

Table 3. Model: Accession as a Game

		Country ≠*i*	
Country *i*		*L*	*T*
	L	a, a	d, c
	T	c, d	c, c

where

$$a \equiv \overline{u}_i - (\underline{p} - b_i) \cdot S_i > c \equiv \underline{u}_i > d \equiv \overline{u}_i - (\overline{p} - b_i) \cdot S_i .$$

While both countries are fully informed about the payout matrix, they cannot observe the other country's actions before deciding on fiscal policy but move simultaneously. It is

[21] To keep things simple, we retain the assumption that the EU is not an active player in the coordination phase of the game. However, while we do not model this explicitly, the EU is of course is crucial in defining the playing field *ex ante* through its influence on S_i and/or *p*.

straightforward to show that the game has two Nash equilibria. If both countries expect the other country to choose to play *L*, both will choose *L* themselves. If, however, *i* and $\neq i$ believe their counterpart to select *T*, both will find it optimal to choose *T* as well.

Note that the equilibrium in which both countries decide to run a "loose" fiscal policy entails higher pay-offs for both, making it the more attractive solution for decision maker's in *i* and $\neq i$. This makes the equilibrium (*L*, *L*) more likely to be selected if the coordination game was played repeatedly or a refined Nash-equilibrium concept was to be applied.

C. Implications

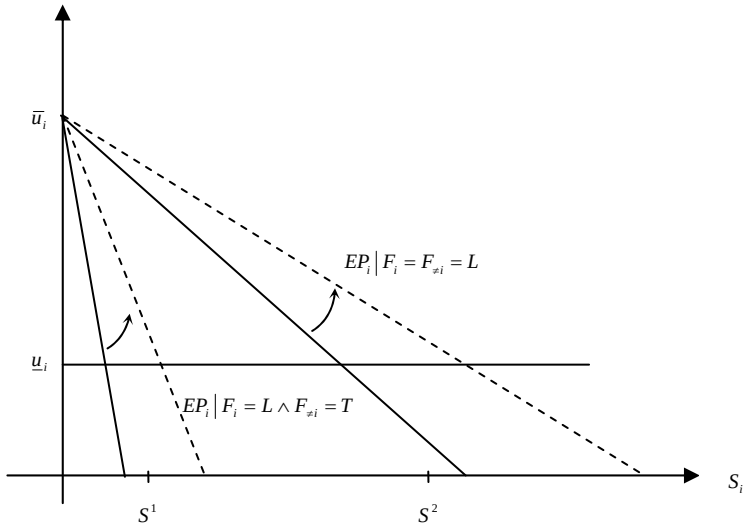
Ultimately, fiscal policy decisions in this theoretical model depend on preferences expressed in the *subjective penalty for misbehavior*, S_i, i.e. the utility loss from being excluded from EU or euro area accession. If the sanction associated with not adhering to the conditions attached to EU or euro area accession is very low, decision makers are likely to favor a "loose" fiscal policy. If, on the other hand, the penalty for fiscal misbehavior is very high, fiscal policy is more likely to follow a "tight" course.

In addition, the expected *utility associated with a "loose" or "tight" fiscal policy* plays a role for the choice of fiscal policy. Obviously, the more developed a country's preference for prudent fiscal policy or the better informed decision makers are regarding the intertemporal consequences of a "loose" fiscal policy, the larger is the difference $\underline{u}_i - \overline{u}_i$ and the less attractive a "loose" fiscal policy and the "tighter" actual policy. An increase in $\underline{u}_i$ simultaneously moves the intersection of the $EP_i \mid L,T$ - and the $EP_i \mid L,L$ -line with the y-axis upward and the intersection with the x-axis to the left. This implies a decrease in both $\overline{S}^*$ and $\underline{S}^*$. A decrease in $\overline{u}_i$ will make both lines steeper with the same effect (see equation (5)).

Moreover, fiscal policy is also influenced by a country's *bargaining power* vis-à-vis the EU authorities, which affects the probability of a country actually being excluded from EU accession in case of misbehavior. The stronger the bargaining position, i.e. of a larger b_i, the more attractive it becomes to choose a "loose" policy. As equation (5) makes clear, a higher b_i makes the $EP_i \mid L,T$ - and the $EP_i \mid L,L$ -line flatter, which will increase $\overline{S}^*$ and $\underline{S}^*$.

Finally, fiscal choice is a function of the *EU policy position*. While a limitation of the model is that it treats EU policies vis-à-vis the ACs as exogenous, it can still guide our discussion regarding possible changes in EU preferences. For instance, it can be argued that the decision of existing EU member countries not to strictly enforce the Stability and Growth Pact amongst themselves could have influenced fiscal policy choices in the accession countries. The relevant policy experiment within the simple model discussed above would be an update of the ACs' priors concerning the (common) probability of actually being sanctioned for a "loose" fiscal stance in conflict with the accession process. This is captured by a decrease in the probabilities $\underline{p}$ and $\overline{p}$. Figure 3 describes this scenario.

Figure 3. Model: A Change in EU Accession Policy



For illustrative purposes, consider a country in the intermediate range (i.e., Regime 3). Before the EU policy change, decision makers in this country opted for a "loose" fiscal policy only after considering the actions of its fellow accession countries because its perceived losses form being left behind, (S^1). With the EU policy change lowering the probability of being sanctioned for misbehavior, however, it will now be beneficial to select a "loose" fiscal stance irrespective of other countries' choices. Similarly, when there is a relatively high fear of being left behind, S^2 (Regime 2)—which before the EU policy change always preferred a "tight" fiscal stance—decision makers could now be tempted to select a "loose" fiscal stance if other accession countries did the same. In brief, intuitively, a higher tolerance for fiscal misbehavior is likely to lead to a looser fiscal stance in all but the most prudent and politically weaker ACs.

Would this make EU policymakers reconsider? Above we suggested that a reduction in the probabilities of being penalized for fiscal misbehavior by the EU could reflect failure to implement the Stability and Growth Pact amongst present EU members. While our simple setup does not explicitly model the feedback on present members, it would seem unlikely that internalizing possible repercussions abroad could fundamentally alter their fiscal policy (or their selection of $\underline{p}$ and $\overline{p}$). A present member country ignoring the Stability and Growth Pact already incurs some costs, including loss of reputation and—because of mechanisms similar to the ones discussed above—a greater likelihood of fiscal misbehavior by other members countries. Internalizing the fiscal repercussions in the ACs will have an influence on the decisions of the "marginal offender" that is close to indifferent between

sticking to the rules or discarding the Stability and Growth Pact, but it is unlikely to fundamentally change the average fiscal stance of current EU members.[22] As a consequence, the ACs have little reason to readjust the priors on being penalized for fiscal misbehavior.

VI. CONCLUSIONS

Stylized facts for the period 1997–2002 reveal significant differences in the fiscal balances of the eight leading ACs. Whereas the fiscal stance in the Baltic countries had converged within the Maastricht deficit reference value, fiscal performance in the large Central European countries was on a path of divergence. In order to shed light on the future fiscal behavior of ACs in the process of euro adoption, the present paper attempts to explain the differences in past fiscal performance.

Pooled annual cross-country regression estimates of various potential determinants of fiscal behavior suggest that the economic and electoral cycles had a statistically significant influence on the fiscal trends in these countries. The fiscal balance tended to deteriorate during recessions and elections. The effect of fiscal institutions was marginal at best. Transparency seemed to be associated, though not significantly, with improved fiscal performance. Political structures seem to have no discernable impact on fiscal performance in these countries. Beyond these determinants, there is evidence that the improvement in the overall balance was significantly less than the saving from declining interest costs.

After isolating the effect of the "usual suspects" on fiscal performance—namely, economic, electoral, and institutional determinants—we found that large Central European countries progressively relaxed their fiscal stance upon securing NATO membership in 1999. This statistically significant result can be interpreted as evidence of the role of political economy elements in the fiscal behavior of the ACs, including their perceived bargaining power in accession negotiations. Accordingly, a simple game-theoretic model is developed to capture the factors that might underlie observed differences in fiscal strategy in the ACs.

The game-theoretic approach rests on a binary choice between a tight and a loose fiscal stance that depends on the expected utility from the selected deficit level and on the expected sanction—in terms of being excluded from the EU. Further, given the political economy of

[22] If current member countries' behavior were informed by considerations similar to the model discussed for the ACs, the marginal country would be likely to be of medium size, while larger countries with ample bargaining power would be less probable to change their fiscal decisions. Moreover, if a possible loss of reputation due to fiscal misbehavior translates into a loss of bargaining power along other (EU-relevant) dimensions, the consequences might be less dire for larger countries. It is easy to show that in a standard symmetrical Nash bargaining model the utility loss caused by a given absolute decrease in bargaining power is higher the weaker is the initial fallback position. As a consequence, when utility is concave, large countries with stronger fallback positions suffer less from a decrease in bargaining power than medium-sized or small countries.

the accession process, a key element in the utility maximization in each AC is the probability of being excluded from the EU, expressed as a function of the country's fiscal policy choice, its bargaining power, and the position of the EU regarding the imposition of sanctions. In this context, each AC chooses from among three policy regimes, depending on the value of the sanction for loose fiscal policy: a loose fiscal stance is dominant if the probability of sanction is low; a tight fiscal stance is dominant if the sanction is high; and for intermediate sanction values, the policy depends on the choices of other ACs—that is, it is determined in a coordination game. The approach is sufficiently flexible to accommodate shifts in fiscal policy—for example, in response to changes in the EU position.

According to this model, the fiscal strategy of each AC, as reflected in its fiscal performance in recent years, can be a rational choice. In this framework, differences in fiscal stance between the Baltic countries and the large Central European NATO member countries would be ascribed to differences in their perceived bargaining strength. In addition, the progressive deterioration of fiscal performance in the Central European region would be consistent with an apparent relaxation of the requirement of fiscal discipline, up to the second Irish referendum in October 2002 and the subsequent de facto admission of the ACs at the Copenhagen summit at the end of 2002. Arguably, the deterioration of the fiscal position in the large ACs can also be explained in terms of a coordinated game among these countries.

With their EU membership secured, the critical issue at this stage is when and under what conditions the ACs will be eligible to join the euro area. As a corollary, it is of interest to analyze, at least theoretically, the determinants of fiscal behavior in the run-up to euro area participation from the standpoint of the model developed in this paper. According to the model, two factors will play critical role in this regard: the bargaining power of the ACs and the policy of the EU. The outcome will depend on the relative importance of these two factors.

On the one hand, since the political clout of most of the ACs has been enhanced, there could be a more widespread tendency toward relaxation of the fiscal stance in the future. This trend may be further exacerbated by the budgetary implications of EU accession. Kopits and Székely (2004) estimate that unless ACs undertake major fiscal reforms, the direct budgetary effect of EU accession, on average, could widen the deficit by as much as 3 to 4¾ percent of GDP annually in the medium run. On the other hand, the EU may well harden its attitude toward ACs that fail to approach the deficit reference value—in the context of periodic convergence programs, subject to intensified monitoring—for purposes of joining the euro area, thereby offsetting in part the propensity to relax the fiscal stance. At the very least, the ACs will be subject to tougher transparency requirements, including full compliance with ESA 95 standards.

Somewhat less ponderable is the possible demonstration effect on AC fiscal behavior of the enforcement of sanctions under the SGP with respect to large EU member countries.[23] Laxity in this regard within the euro area could be interpreted by the ACs as tantamount to a dilution of sanctions—in terms of exclusion from the euro area—for failure to converge to the deficit reference value.

Recent experience, including anecdotal evidence, suggests continuation of past fiscal trends in the ACs following EU entry last year, broadly consistent with the hypothesized game. The Baltics and Slovenia, already admitted in the ERM2 regime, stay the course of strict adherence to the fiscal reference value and avoid the risk of missing the 2007 target date for euro adoption. By contrast, the large Central European countries are being subject to the excessive deficit procedure—partly due to internal political difficulties in implementing reform steps and in reigning in the budgetary costs of accession— [24]apparently under the perception of a bargaining position now strengthened by the softer interpretation of the SGP for major EU members and thus of more liberal application of the requirements for eventual euro adoption.[25]

[23] Serious concern about the adverse fallout on AC fiscal policies from excess deficits in major EU members has been voiced unanimously by the governors of central banks of the Czech Republic, Hungary, and Poland (*Financial Times*, August 29, 2003).

[24] As an exception, the present government in Slovakia has embarked on an ambitious fiscal reform-cum-adjustment program with the declared goal of joining the euro area by 2009, ahead of the other Central European members' objective of joining at the earliest in 2010.

[25] Interestingly, however, for the ACs (Bulgaria and Romania) slated for the next round of EU membership, a hardening of attitudes by current EU members, expressed in the recent rejection of the draft constitution in France and the Netherlands, may translate into a higher parameter *p* and a tighter fiscal policy stance in future ACs.

REFERENCES

Allan, William, and Taryn Parry, 2003, "Fiscal Transparency in EU Accession Countries: Progress and Future Challenges," IMF Working Paper 03/163 (Washington: International Monetary Fund).

Calvo, Guillermo, and Frederic Mishkin, 2003, "The Mirage of Exchange Rate Regimes for Emerging Market Economies," NBER Working Paper No. 9808 (Cambridge, Massachusetts: National Bureau of Economic Research).

Drazen, Allan and Paul R. Masson, 1994, "Credibility of Policies versus Credibility of Policymakers," *Quarterly Journal of Economics*, Vol. 109, pp. 735–54.

European Commission, 2002, *European Economy: Public Finances in EMU*, No. 3

Gleich, Holger, and Jürgen von Hagen, 2003, "The Evolution of Budget Institutions: Evidence from Central and Eastern European Countries," ZEI, University of Bonn.

Kopits, George, 2004, "Fiscal Policy and High Capital Mobility," in G. Kopits (ed.) *Rules-Based Fiscal Policy in Emerging Markets: Background, Analysis and Prospects*, London: Palgrave Macmillan, pp. 66-80.

Kopits, George and István P. Székely, 2004, "Fiscal Policy Challenges of EU Accession for the Baltics and Central Europe," in G. Tumpel-Gugerell and P. Mooslechner (eds.), *Structural Challenges for Europe*, Cheltenham: Edward Elgar, pp. 277–97.

Krugman, Paul, 1979, "A Model of Balance-of-Payments Crises," *Journal of Money, Credit and Banking*, Vol. 11, pp. 311–25.

Mody, Ashoka and Stefania Fabrizio (2005), "Fiscal Commitment: The Role of Budget Institutions," (unpublished manuscript, International Monetary Fund).

Nordhaus, William, 1975, "Political Business Cycle," *Review of Economic Studies*, Vol. 42, pp. 169–89.

Persson, Torsten, and Lars Svensson, 1989, "Why a Stubborn Conservative Would Run a Deficit: Policy with Time-Inconsistent Preferences," *Quarterly Journal of Economics*, Vol. 104, pp. 325–45.

Persson, Torsten, and Guido Tabellini, 2000, *Political Economics: Explaining Economic Policy*, Cambridge, Mass.: MIT Press.

Sun, Yan, 2003, "Do Fixed Exchange Rates Induce More Fiscal Discipline?," IMF Working Papers 03/78 (Washington: International Monetary Fund).

Székely, István P., 2003, "Poland: Fiscal Policy, Fiscal Sustainability, and Fiscal Risk on the Way to EU Accession," Poland 2003 Article IV Report: Selected Issues (Washington: International Monetary Fund,. June).

Székely, István P., 2005, "Would Poland Benefit From a Fiscal Responsibility Law?" Poland 2005 Article IV Report: Selected Issues (Washington: International Monetary Fund., July).

Tornell, Aaron, and Andres Velasco, 1998, "Fiscal Discipline and the Choice of a Nominal Anchor in Stabilization," *Journal of International Economics*, Vol. 46, pp. 1–30.